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BUREAU OF Entomology and Plant Quarantine
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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

WASHINGTON, D. C.

Forest Insect Laboratory
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Berkeley 4, California

OFFICE MEMORANDUM: May 24, 1951

NUMBER OF IPS ADULTS EMERGING FROM A SINGLE EXIT HOLE.

The emergence of more than one Ips confusus adult from a single exit hole in infested ponderosa pine slash or trees is generally accepted by forest entomologists as factual on the basis of the gregarious habits of maturing adults. Positive proof of this habit was demonstrated recently by a technique which is briefly described.

An infested log section containing maturing broods with no exit holes was up-ended. The outer bark was shaved down so that a uniformly smooth surface was obtained. Small glass shell vials were then prepared with gummed tape and securely sealed against the smoothed bark surface, as illustrated by the accompanying photograph. They were spaced at random, with the chance that at least some exit holes would be bored within the space enclosed by a vial. Vials totalling 57 (numbered serially) were sealed on this log. Daily records were kept during the three-week period of this test, from August 27 to September 18, 1950. With each recording, the beetle in any given vial was removed. The results of this test are listed below. No more than one exit hole was bored through the bark enclosed by any given vial.

Single exits.	8
Two exits (same hole)	4
Three exits (same hole).	1
Four exits (same hole).	1
Total exit holes	14
Total adults emerged.	23
Number of adults per exit hole. . .	1.6

While this demonstration is sufficiently convincing that more than one beetle may emerge from a given exit hole, there is no assurance of frequency, average, or maximum number from the limited information obtained here. However, any additional information appears to be of academic interest, and beyond the scope of practical use. The only exception is its possibility in obtaining information on the control benefits of residual sprays if these are shown to be practical.

Submitted by:

G. R. Struble

Glass vials attached to Ips infested ponderosa pine log to trap emerged beetles from single exit holes.

Photo 13390